CLAIMS

What is claimed is:

1. A method of transmitting frames on a communications link comprising:

monitoring the communications link to determine a probability of error on the link; and

selecting frame size as a function of the determined probability.

2. The method of claim 1, wherein the frame size is selected as a function of overhead.

3. The method of claim 2, wherein, the selected frame size is selected from a set of frame sizes computed numerically as the solution to $1+\frac{O}{F_{opt}+O}=\frac{\alpha F_{opt}}{1-e^{-\alpha F_{opt}}}$

where O is overhead, F_{opt} is optimum frame size and α = -ln(1-probability of bit error).

4. The method of claim 3, wherein if overhead is significantly larger than the frame size, the selected frame size is inversely proportional to the natural logarithm of the determined probability.

5. The method of claim 1, wherein the step of monitoring monitors the signal to noise ratio on the communications link.

6. The method of claim 1, wherein the step of monitoring monitors a frame error rate on the communications link.

7. The method of claim 1, wherein frames are transmitted over the communications link using the IEEE 802.11 media access control and physical layer protocol.

8. The method of claim 7 wherein the frame is one of a plurality of fragments in a transmitted fragment burst.

9. A system for transmitting frames on a communications link comprising:

a monitoring routine which monitors the communications link to determine a probability of error in the link; and

a frame sizer which selects frame size as a function of the determined probability.

10. The system of claim 9, wherein the frame size is selected from a table as a function of overhead.

11. The system of claim 9, wherein the frame size is selected from a set of frame sizes computed numerically as the solution to $1+\frac{O}{F_{opt}+O}=\frac{\alpha F_{opt}}{1-e^{-\alpha F_{opt}}}$

where O is overhead, F_{opt} is optimum frame size and α = -ln(1-probability of bit error).

12. The system of claim 11, wherein if overhead is significantly larger than the frame size, the selected frame size is inversely proportional to the natural logarithm of the determined probability.

13. The system of claim 9, wherein the monitoring routine monitors signal to noise ratio on the communications link.

14. The system of claim 9, wherein the monitoring routine monitors a frame error rate on the communications link.

15. The system of claim 9, wherein frames are transmitted over the communications link using the IEEE 802.11 media access control and physical layer protocol.

16. The system of claim 15, wherein the frame is one of a plurality of fragments in a transmitted fragment burst.

17. A system for transmitting frames on a communications link comprising:

means for monitoring the communications link to determine a probability of error on the link; and

means for selecting frame size as a function of the determined probability.